

CLAIMS

I claim:

1. A method for distributing representative images of a group of objects in a database for display within an area bounded by a plurality of partitions within a three-dimensional graphical environment comprising:

scaling an image to obtain a scaled dimension for each image while

5 maintaining its original aspect ratio;

determining image weight factors based on scaled dimensions;

determining partition weight factors based on an associated display dimension of each partition;

distributing images to successive partitions dependent on the comparison of at least one image weight factor to each partition weight factor.

- 10 2. The method as described in Claim 1 wherein the scaled dimension is image width and the associated display dimension is partition width.

- 15 3. The method as described in Claim 1 wherein distributing images further comprises matching each partition weight factor to one image weight factor dependent on a predetermined functional relationship.

4. The method as described in Claim 3 wherein the functional relationship is the greatest image weight factor that is less than each partition weight factor.

5. The method as described in Claim 3 wherein the functional relationship is the image weight factor that minimizes the absolute difference between the image weight factor and each partition weight factor.

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6. The method as described in Claim 1 wherein the partitions are not necessarily contiguous.

7. The method as described in Claim 1 wherein images are scaled by setting all heights of images to a common height where the common height is less than or equal to a common height of the partitions.

5 8. An apparatus for distributing representative images of a group of objects in a database for display within an area defined by a plurality of partitions within a three-dimensional graphical environment comprising:

image dimension scaler for scaling each image to obtain a scaled dimension while maintaining the aspect ratio of the image;

10 weight factor determiner for determining image weight factors based on corresponding scaled dimensions and for determining partition weight factors based on corresponding display dimensions; and

image distributor for distributing images to successive partitions dependent on the comparison of at least one image weight factor to each partition weight factor and on previously distributed images.

15 9. The apparatus as described in Claim 8 wherein the scaled dimension is image width and the associated display dimension is partition width.

10. The apparatus as described in Claim 8 each partition weight factor is matched to one image weight factor dependent on a predetermined functional relationship.

20 11. The apparatus as described in Claim 10 wherein the predetermined functional relationship is the greatest image weight factor that is less than each partition weight factor.

12. The apparatus as described in Claim 10 wherein the predetermined functional relationship is the image weight factor that minimizes the absolute difference between the image weight factor and each partition weight factor.

25 13. The apparatus as described in Claim 8 wherein the partitions are not necessarily contiguous.

14. The apparatus as described in Claim 8 wherein images are scaled by setting all heights of images to a common height where the common height is less than or equal to a common height of the partitions.

15. A method of displaying representative images of a plurality of data objects in a database within a three-dimensional graphical environment comprising:

partitioning the environment by representing a database of objects with a hierarchical tree including object nodes derived from object metadata and recursively partitioning the environment into a plurality of areas bounded by partitions such that the areas are proportional to object node weights;

10 distributing groups of representative images within each of the plurality of areas by:

scaling images to obtain a scaled dimension for each image in the group while maintaining its original aspect ratio;

15 determining image weight factors for the group of images based on scaled dimensions;

determining partition weight factors based on an associated display dimension of each partition;

20 distributing the group of images to successive partitions dependent on the comparison of at least one image weight factor to each partition weight factor.

16. The method as described in Claim 15 wherein representative images are grouped according to the hierarchical tree.

17. The method as described in Claim 15 further comprising grouping images dependent on the object metadata.

25 18. The method as described in Claim 15 wherein the scaled dimension is image width and the associated display dimension is partition width.

19. The method as described in Claim 15 wherein distributing images further comprises matching each partition weight factor to one image weight factor dependent on a predetermined functional relationship.
20. The method as described in Claim 19 wherein the functional relationship is the greatest image weight factor that is less than each partition weight factor.
21. The method as described in Claim 19 wherein the functional relationship is the image weight factor that minimizes the absolute difference between the image weight factor and each partition weight factor.
22. The method as described in Claim 15 wherein the partitions are not necessarily contiguous.
23. The method as described in Claim 15 wherein images are scaled by setting all heights of images to a common height where the common height is less than or equal to a common height of the partitions.